

CLAIMS

I claim:

1. An improved strap tensioner comprising:
 - a. a rigid base with a front flange member and a rear flange member;
 - b. a tension lever longitudinally aligned located over said rear flange member, said tension lever including a lower clamping flange;
 - c. an intermediate member pivotally connected to said rigid base, said intermediate member including a lower first cam surface;
 - d. means for pivotally connecting said tension lever to said intermediate member so that said first cam surface is disposed above said lower clamping flange on said tension lever;
 - e. means for biasing said tension lever and said intermediate member in opposite directions;
 - f. a means for biasing said intermediate member in a rearward direction on said rigid member;
 - g. a means for coupling the movement of said tension lever and said intermediate member so that when said tension lever is rotated in predetermined amount in a forward direction, said intermediated member is engaged and begins to rotate in a forward direction;
 - f. a brake lever pivotally connected to said rigid base, said brake lever including a second cam surface that presses against a strap extended longitudinally on said rigid base to prevent movement of said strap when extended through said rigid base and disposed under said first cam surface; and,
 - g. a biasing means connected to said brake lever to forcible press said second

1 cam surface against a strap extended longitudinally over said rigid base and under said first
2 cam surface.

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4 2. The strap tensioner as recited in Claim 1, wherein said rigid base includes two side
5 walls transversely aligned front flange member, rear flange member, upper strut and rear
6 strut.

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8 3. The strap tensioner as recited in Claim 2, wherein said intermediate member includes
9 two upper ear members located opposite said first cam surface, each said upper ear including
10 a transversely aligned bore formed therein.

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12 4. The strap tensioner as recited in Claim 3, further including a pin disposed transversely
13 between said side wall on said rigid base used to pivotally attached said intermediate member
14 to said rigid base.

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16 5. The strap tensioner as recited in Claim 4, wherein said means for biasing said
17 intermediate member in a rearward direction on said rigid base is spring disposed over said
18 pin that presses against said intermediate member and said upper strut to biasing said
19 intermediate member in a rearward direction on said rigid member.

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21 6. The strap tensioner as recited in Claim 5, wherein said tension lever includes a central
22 opening that enables a strap to extend through said rigid member.

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1 7. The strap tensioner as recited in Claim 1, wherein said means for pivotally connecting
2 said tension lever to said intermediate member is a transversely align pin.
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4 8. The strap tensioner as recited in Claim 7, further include a spring disposed around
5 said pin to bias said tension lever and intermediate member in opposite directions over said
6 rigid member.
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8 9. The strap tensioner as recited in Claim 8, wherein said tension lever includes two
9 nesting surfaces that engage the ear members on said intermediate member when said tension
10 lever is sufficiently rotated in rearward direction over said rigid member.
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12 10. The strap tensioner as recited in Claim 1, wherein said brake lever includes means for
13 engaging said tension lever when said tension lever is sufficiently rotated in a forward
14 direction over said rigid member thereby forcing said brake lever forward when said tension
15 lever is rotated in a forward direction a sufficient distance.
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17 11. The strap tensioner as recited in Claim 4, wherein said brake lever includes means for
18 engaging said tension lever when said tension lever is sufficiently rotated in a forward
19 direction over said rigid member thereby forcing said brake lever forward when said tension
20 lever is rotated in a forward direction a sufficient distance.
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22 12. The strap tensioner as recited in Claim 10, wherein said brake lever includes means
23 for engaging said tension lever when said tension lever is sufficiently rotated in a forward

1 direction over said rigid member thereby forcing said brake lever forward when said tension
2 lever is rotated in a forward direction a sufficient distance.

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4 13. The strap tensioner as recited in Claim 10, wherein said brake lever includes means
5 for engaging said tension lever when said tension lever is sufficiently rotated in a forward
6 direction over said rigid member thereby forcing said brake lever forward when said tension
7 lever is rotated in a forward direction a sufficient distance.

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9 14. The strap tensioner as recited in Claim 1, wherein said brake lever includes two ears
10 located at one end, each ear include a bore and being separated by a central space.

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12 15. The strap tensioner as recited in Claim 12, wherein said biasing means connected to
13 said brake lever to forcible press said second cam surface against a strap extended
14 longitudinally over said rigid base and under said first cam surface is a spring disposed over a
15 transversely aligned pin and located inside said central space.

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17 16. An improved strap tensioner comprising:

18 a. a rigid base that includes two side walls and transversely aligned front flange
19 member, rear flange member, upper strut and rear strut.;

20 b. a tension lever longitudinally aligned located over said rear flange member,
21 said tension lever including a lower clamping flange that extends downward and under a
22 strap when disposed longitudinally over said front flange member and rear flange members,
23 said tension lever includes a central opening that enables a strap to extend through said rigid

1 member;

2 c. an intermediate member pivotally connected to said rigid base and located
3 adjacent to said upper strut, said intermediate member including a lower first cam surface that
4 extends downward to engage a longitudinally aligned strap disposed inside said rigid base
5 and between said side walls;

6 d. a transversely aligned pin disposed between said tension lever and said
7 intermediate member to pivotally connect said tension lever and said intermediate member
8 together;

9 e. means for biasing said tension lever and said intermediate member in opposite
10 directions;

11 f. a means for biasing said intermediate member in a rearward direction on said
12 rigid member;

13 g. a means for coupling the movement of said tension lever and said intermediate
14 member so that when said tension lever is rotated in predetermined amount in a forward
15 direction, said intermediated member is engaged and begins to rotate in a forward direction;

16 h. a brake lever pivotally connected to said rigid base, said brake lever including
17 a second cam surface that presses against a strap extended longitudinally on said rigid base to
18 prevent movement of said strap when extended through said rigid base and disposed under
19 said first cam surface; and,

20 i. a biasing means connected to said brake lever to forcible press said second
21 cam surface against a strap extended longitudinally over said rigid base and under said first
22 cam surface.

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1 17. The strap tensioner as recited in Claim 16, wherein said intermediate member
2 includes two upper ear members located opposite said first cam surface, each said upper ear
3 including a transversely aligned bore formed therein.
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5 18. The strap tensioner as recited in Claim 16, wherein said tension lever includes two
6 nesting surfaces that engage the ear members on said intermediate member when said tension
7 lever is sufficiently rotated in rearward direction over said rigid member.
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9 19. The strap tensioner as recited in Claim 17, wherein said tension lever includes two
10 nesting surfaces that engage the ear members on said intermediate member when said tension
11 lever is sufficiently rotated in rearward direction over said rigid member.
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13 20. The strap tensioner as recited in Claim 16, wherein said brake lever includes means
14 for engaging said tension lever when said tension lever is sufficiently rotated in a forward
15 direction over said rigid member thereby forcing said brake lever forward when said tension
16 lever is rotated in a forward direction a sufficient distance.
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